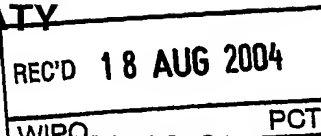


PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT (PCT Article 36 and Rule 70)



Applicant's or agent's file reference 0000053478	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/EP 03/04437	International filing date (day/month/year) 29.04.2003	Priority date (day/month/year) 01.05.2002
International Patent Classification (IPC) or both national classification and IPC A61L15/60		
Applicant BASF AKTIENGESELLSCHAFT		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 6 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

 These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:
 - I ☒ Basis of the opinion
 - II ☐ Priority
 - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☐ Lack of unity of invention
 - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☐ Certain documents cited
 - VII ☐ Certain defects in the international application
 - VIII ☐ Certain observations on the international application

Date of submission of the demand 23.10.2003	Date of completion of this report 17.08.2004
Name and mailing address of the international preliminary examining authority: European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer Heck, G Telephone No. +31 70 340-3288

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/EP 03/04437**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-44 as originally filed

Claims, Numbers

1-27 as originally filed

Drawings, Sheets

1/5-5/5 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-27
	No: Claims	-
Inventive step (IS)	Yes: Claims	-
	No: Claims	1-27
Industrial applicability (IA)	Yes: Claims	1-27
	No: Claims	-

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following document (D1) cited in the International search report:

D1 ... US 2002/007166 A (Mitchell M. et al.)

The following documents D2 and D3 were not cited in the international search report. Copies of the documents are appended hereto:

D2 ... US 5,372,766 A (Roe D. C.)

D3 ... US 5,451,353 A (Rezai E. et al.)

Document D1 discloses (cf. par. 2, 92, 305-312 ; claims 1-3, 9, 26, 32, 33, 38) a flexible absorbent sheet comprising a combination of unneutralised acidic and basic water-absorbent resin particles and absorbent articles containing the same.

The subject-matter of claims 1-27 of the present application differs from D1 in the presence of a plasticising compound in an amount of 0.1-200 parts by weight per 100 parts of the superabsorbent polymer compound and is therefore novel according to Article 33(2) PCT.

D1, which is considered the most relevant state of the art, discloses absorbent articles with a flexible absorbent sheet comprising a combination of unneutralised acidic and basic water-absorbent resin particles having excellent structural integrity with little or no shakeout or loss of superabsorbent particles from the sheet material (cf. par. 2).

In view of D1, the objective technical problem is considered to improve the flexibility of absorbent sheets containing SAP particles while maintaining the structural integrity and little shakeout of particles.

The solution of the present invention is an absorbent sheet comprising a superabsorbent polymer formed from unneutralised acidic and basic water-absorbent resin particles and 0.1-200 parts of a plasticiser per 100 weight parts of the SAP component, wherein the sheet contains 60-100% by weight of the superabsorbent polymer.

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/EP 03/04437

According to the above-defined problem and solution as well as to description of the present application (cf. p. 4, l. 29 - p. 5, l. 6), the following features are essential for the invention:

- the presence of the unneutralised acidic and basic water-absorbing resins in particle form

If no particles are present in the claimed flexible absorbent sheet, no shakeout of particles is possible and the technical problem cannot be solved.

Since present claim 1 does not contain the above essential features, it does not meet the requirement following from Article 6 PCT taken in combination with Rule 6.3(b) PCT that any independent claim must contain all the technical features essential to the definition of the invention.

The use of multicomponent superabsorbent polymer particles as mentioned in claim 3 is unaffected by the insertion of the missing essential features.

The difference between D1 and claims 1, 18 and 20 of the present application is the presence of a plasticiser in the flexible absorbent sheet.

Plasticisers have been frequently used in the art for making superabsorbent sheets (cf., e.g. D2: claims 1, 4 ; D3: claims 20, 22, 25).

Therefore, for the person skilled in the art, seeking to improve the flexibility of the absorbent sheet in D1, the addition of a plasticiser was an obvious possibility.

The table on page 31 of the description of the present application shows a clear improvement of the acquisition time and acquisition rate of the absorbent sheet material according to the present invention containing 10, 25, 50 and 100 parts per weight propylene glycol per 100 parts per weight of SAP.

However, it is completely unclear how such an, according to the Applicant unexpected result can be generalised not only to a wide range of concentrations of plasticisers (0.1-200 parts per weight of plasticiser in claim 1), but also from the used propylene glycol to any kind of plasticiser.

Consequently, the subject-matter of claim 1 does not involve an inventive step according to Article 33(3) PCT.

The additional features of the dependent claims come within the scope of the customary practice of the skilled person and do not contribute to the solution of the technical problem.

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Consequently, the subject-matter of claims 2-27 of the present application is not considered to involve an inventive step according to Article 33(3) PCT either.

The subject-matter of claims 1-27 has an industrial applicability in the field of absorbent articles such as hygienic products and is therefore considered to comply with the requirements of Article 33(4) PCT.